

REMARKS

In the Official Action of December 5, 2006, claims 1-4, 8 and 10-11 were rejected under 35 U.S.C. 102(e) as being anticipated by Fariabi (U.S. Patent No. 6,482,166) and claims 7 and 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fariabi in view of Eder et al. (U.S. Patent No. 6,488,637). For at least the reasons set forth below, Applicants respectfully traverse these rejections.

As set forth above, independent claim 1 is directed to a guide wire comprising a distal end portion and a main body portion. The main body portion comprises a center layer formed of a first material, a surface layer formed of a second material, and an intermediate layer formed of a mixture of said first material and said second material. The first material is a Ni-Ti based alloy, and the second material is a metallic material higher in rigidity than said Ni-Ti based alloy. As amended above, a weight ratio of the first material to the second material in the material for forming the intermediate layer is in the range of 1:9 to 9:1.

The primary reference upon which the Examiner relies, Fariabi, discloses a guide wire 10 having an inner member 13 formed of Ni-Ti and an outer sheath formed of a Co-Ni-Cr alloy. The guidewire formed in Fariabi is a composite structure formed of these **two** alloys. There is no disclosure or suggestion for an intermediate member therebetween formed from a mixture of these two alloys. The Examiner has taken the position that an intermediate layer meeting the requirements of the claimed invention would be formed by heat treatment. Applicants respectfully traverse this position as being contrary the teaching in Fariabi. Moreover, Fariabi certainly does not disclose or suggest a **weight ratio** for the alleged layer formed by heat treatment, as now recited in claim 1.

The paragraph beginning at col. 2, line 59, of Fariabi indicates that the guidewire is a composite structure formed of the cobalt-nickel-chromium alloy and the Ni-Ti alloy. The paragraph beginning at col. 3, line 40, further describes one embodiment where the cobalt-nickel-chromium alloy and the Ni-Ti alloy are worked together, as set forth in more detail at col. 5, line 49 - col. 6, line 4. The resultant product has the Ni-Ti product as an inner member disposed within the inner lumen of a sheath formed of the Co-Ni-Cr-Mo alloy, as described at col. 3, lines 57-59. Thus, even when worked together into the composite product, there is no disclosure or suggestion that there is any mixing of the two alloys forming the inner and outer members. Fariabi further discloses that the NiTi alloy product and the Co-Ni-Cr alloy product can be first prepared separately to their desired final properties and then combined together by suitable means to form the composite product. Suitable means are described as including heating and inserting one in the other, adhesive bonding or physical connection such as a set screw, neither of which would lead to a mixture of the two alloys being formed. Accordingly, when read in its entirety, Fariabi fails to disclose or suggest any formation of an intermediate layer between the inner and outer members or any mixing of the two disclosed alloys. Rather, even when the inner and outer members are worked together, Fariabi continues to maintain the disclosure of distinct inner and outer members which form a composite product. Applicants respectfully submit that Fariabi fails to disclose an intermediate layer formed of a mixture of said first material and said second material, wherein said first material is a Ni-Ti based alloy, and said second material is a metallic material higher in rigidity than said Ni-Ti based alloy, and a weight ratio of the first material to the second material in the material for forming the intermediate layer is in the range of

1:9 to 9:1, as recited in claim 1.

Independent claim 8 is directed to a guide wire having an intermediate portion that comprises a center layer formed of a first material, and a surface layer formed of a mixture of said first material and a second material, with said surface layer covering said center layer. Still further, said surface layer is decreased in the content of said first material toward an outer surface of said intermediate portion and increased in the content of said second material toward the outer surface of said intermediate portion. Thus, the claimed surface layer has gradient physical properties in a radial direction. As set forth above with respect to claim 1, Applicants respectfully submit that Fariabi fails to disclose a mixing of the two alloys, and thus does not disclose a surface layer that is decreased in the content of said first material toward an outer surface of said intermediate portion and increased in the content of said second material toward the outer surface of said intermediate portion, as recited in claim 8.

Independent claim 9 recites a guide wire having a main body portion comprising a center layer formed of a first material, a surface layer formed of a second material, and an intermediate layer formed of a mixture of said first material and said second material, wherein said main body portion has a structure in which said center layer, said intermediate layer, and said surface layer are provided in this order from a center of said main body portion toward an exterior of said main body portion, wherein said intermediate layer is increased stepwise or gradually in the content of said first material toward said center layer, and wherein said first material is a first metallic material, said second material is a second metallic material higher in rigidity than said first metallic material, and said second metallic material is stainless

steel. Similar to claim 1, Applicants respectfully submit that the primary reference relied upon by Fariabi fails to disclose an intermediate layer formed of a mixture of said first material and said second material, as recited in claim 9. Hence, even when combined with a secondary teaching, the claimed invention is not rendered obvious.

In view of the above remarks, Applicants respectfully submit that the claims of the present application are now in condition for allowance, and an early indication of the same is earnestly solicited.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: May 7, 2007

By:



Wendi L. Weinstein
Registration No. 34456

P.O. Box 1404
Alexandria, VA 22313-1404
703 836 6620